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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,861	08/16/2006	Christian Furst	4385-052760	3412
28289	7590	12/20/2007	EXAMINER	
THE WEBB LAW FIRM, P.C.			HEINCER, LIAM J	
700 KOPPERS BUILDING				
436 SEVENTH AVENUE			ART UNIT	PAPER NUMBER
PITTSBURGH, PA 15219			1796	
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			12/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/550,861	Applicant(s) FURST ET AL.	
	Examiner Liam J. Heincer	Art Unit 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☒ Claim(s) 21-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claims 21-23 are objected to because of the following informalities: each of the three instant claim recites the language "where R<sub>2</sub> may be identical or different" rather than "wherein each instance of R<sub>2</sub> may be identical or different". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Considering Claim 19: In the present instance, claim 19 recites the broad recitation "an aminotriazine condensation product", and the claim also recites "such as a melamine condensation product" which is the narrower statement of the range/limitation. Claim 19 also recites the broad recitation "aminotriazine", and the claim also recites "such as melamine" which is the narrower statement of the range/limitation.

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Considering Claim 26: In the present instance, claim 26 recites the broad recitation "a solvent", and the claim also recites "such as a water, alcohol or an inert solvent" which is the narrower statement of the range/limitation.

Considering Claim 32: In the present instance, claim 32 recites the broad recitation "from about 5 to 95% by weight", and the claim also recites "such as from about 25 to 75% by weight" and "such as from about 30 to 60% by weight" which are the narrower statement of the range/limitation.

Claim 32 also claims "a content of" but gives no indication as to what ingredient or product is being measured. For the purpose of further examination the content is being interpreted as referring to the weight percent of the reaction product.

Claim 32 also claims a "syrup-like solution". There is nothing in the claims or original specification to indicate what is meant by this terminology. Therefore the claim is vague and indefinite.

Considering Claim 33: In the present instance, claim 33 also recites the broad recitation "aminotriazine", and the claim also recites "such as melamine" which is the narrower statement of the range/limitation.

Considering Claim 34: In the present instance, claim 33 recites the broad recitation "a derivitization", and the claim also recites "in particular an etherification, a transesterification, an esterification, an amidation or a hydrolysis" which is the narrower statement of the range/limitation.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-23, 25-31, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Parekh et al. (US Pat. 4,404,332).

Considering Claim 19: Parekh et al. teaches an aminotriazine condensation product (2:38-45) produced by the reaction of melamine (1:66-2:14) and an oxocarboxylic acid derivative (2:21-37).

Considering Claims 20-22: Parekh et al. teaches the oxocarboxylic acid derivative as being of formula II, III or V where R is an ester group (2:21-37) when C(O)CH<sub>2</sub> is chosen as X.

Considering Claim 23: Parekh et al. teaches the oxocarboxylic acid derivative as being of formula VII where R is an ester group (2:21-37) when C(O) is chosen as X.

Considering Claim 25: Parekh et al. teaches the oxocarboxylic acid derivative as being used in a molar ratio of 2.8 to 1 in respect to triazine (4:67-68).

Considering Claims 26 and 27: Parekh et al. teaches the condensation occurring in a solvent at acidic conditions (7:25-8:5).

Considering Claim 28: The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. the solubility would inherently be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Considering Claims 29-31: Parekh et al. teaches reacting the ester group with an amine group/amidation following the primary reaction (3:38-45)

Considering Claim 33: Parekh et al. teaches a process comprising reacting an aminotriazine (1:66-2:14) and an oxocarboxylic acid (2:21-37) in a liquid phase (7:26-8:5).

Considering Claim 34: Parekh et al. teaches reacting the ester group with an amine group/amidation following the primary reaction (3:38-45)

Considering Claims 35 and 36: Parekh et al. teaches filtering the product (8:3-5).

Claims 19, 23, 24, 26-28, 33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Benthem et al. (US 7,199,209).

Considering Claims 19, 23, and 24: Van Benthem et al. teaches an aminotriazine condensation product produced by reacting an aminotriazine (2:39-50) and methylglyoxylate methanol hemiacetal/GMHA (2:30-38).

Considering Claim 26: Van Benthem et al. teaches the reaction as occurring in water or an alcohol solvent (2:60-64).

Considering Claim 27: Van Benthem et al. teaches the reaction as occurring under acidic conditions (3:51-58).

Considering Claim 28: The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. the solubility would inherently be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Considering Claim 33: Van Benthem et al. teaches a method comprising reacting an aminotriazine (2:39-50) and methylglyoxylate methanol hemiacetal/GMHA (2:30-38) in water or an alcohol solvent (2:60-64).

Considering Claim 35: Van Benthem et al. teaches curing the product (4:22-25).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parekh et al. (US Pat. 4,404,332) as applied to claim 19 above, and further in view of Skoultchi et al. (US Pat. 4,770,668).

Considering Claim 24: Parekh et al. teaches the product of claim 19 as shown above.

Parekh et al. does not teach the oxocarboxylic acid as being glyoxylic methyl ester methyl hemiacetal. However, Skoultchi et al. teaches reacting glyoxylic methyl ester methyl hemiacetal with a cyclic amine compound. Parekh et al. and Skoultchi et al. are combinable as they are concerned with the same field of endeavor, namely cyclic amine derivatives. It would have obvious to a person having ordinary skill in the art at the time of invention to have used the hemiacetal as the oxocarboxylic acid derivative of Parekh et al. as in Skoultchi et al., and the motivation to do so would have been, as Skoultchi et al. suggests, these compounds are stable during storage and provides a derivatizable group (2:7-11).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parekh et al. (US Pat. 4,404,332) as applied to claim 19 above.

Considering Claim 32: Parekh et al. teaches the product of claim 19 as shown above.

Parekh et al. is silent as towards the solids content of the product solutions. However, it is well known in the art to optimize result effective variables such as percent solids. It would

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have been obvious to a person having ordinary skill in the art at the time of invention to have used a solids content as in the claim, and the motivation to do so would have been to control the viscosity of the solution, thereby making the solution more processable.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

*Correspondence*

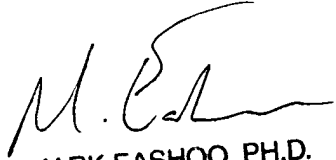
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH

December 11, 2007

  
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SUPERVISORY PATENT EXAMINER  
17/Dec/07